Vapor-Lock

For use as a PCR overlay

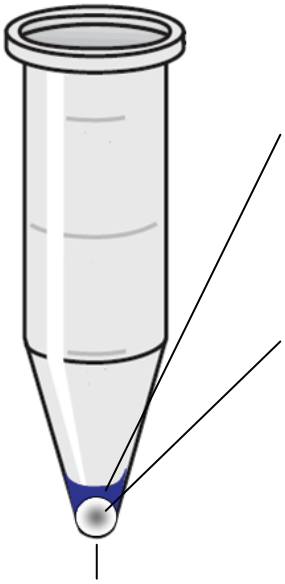
Vapor-Lock is an innovative hydrophobic, low-viscosity PCR encapsulation barrier. As little as 10 µl easy-to-pipet Vapor-Lock creates an effective barrier. Vapor-Lock enables reaction overlays that prevent evaporation and eliminate the need for tube caps.

Evaporation can occur during thermal cycling, resulting in changes in the reaction volume and the concentration of each reaction component. Vapor-Lock prevents evaporation, ensuring high success rates in precision applications such as quantitative real-time PCR and high-resolution melting (HRM®). Vapor-Lock looks and behaves like aqueous buffer. It sits above the aqueous phase, forming a layer on top of the aqueous sample. Vapor-Lock has low viscosity and low specific gravity, allowing aqueous droplets over approximately 1 µl to drop easily through the Vapor-Lock layer to the aqueous sample underneath.

Long reaction setup times, which can occur when working with large numbers of samples in strip tubes or multiwell plates, increase the risk of sample evaporation which can compromise the success of the experiment. Vapor-Lock completely eliminates the need for caps which accelerates reaction setup. Vapor-Lock overlays the samples, preventing evaporation and increasing the reliability of results.

In contrast to mineral oil, Vapor-Lock does not contaminate or inhibit PCR. It is a chemically pure, biologically inert, high-molecular–weight synthetic liquid polymer with very low vapor pressure (<1 mm Hg) and water solubility (<100 ppb). Due to its physical size, it is unable to pass through, or be absorbed by, biological membranes, and is therefore non-hazardous.

Vapor-Lock is fully compatible with the QIAgility® instrument for high-precision, automated reaction set up.



Using the Rotor-Gene Q cycler, the fluorescent signal is measured from the bottom of the tube, resulting in a short optical path

QIAGEN®

Sample & Assay Technologies

Storage

Store bottles tightly closed and dry at room temperature (15–25°C). Vapor-Lock is stable for 2 years after delivery.

Product Use Limitations

Vapor-Lock is an accessory for use with the Rotor-Gene® Q thermal cycler.

All due care and attention should be exercised in the handling of the products. We recommend all users of QIAGEN products to adhere to the NIH guidelines that have been developed for recombinant DNA experiments, or to other applicable guidelines.

Safety Information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDSs). These are available online in convenient and compact PDF format at www.qiagen.com/support/MSDS.aspx where you can find, view, and print the MSDS for each QIAGEN kit and kit component.

Important note

Vapor-Lock cannot be used in Rotor-Discs with the Rotor-Gene Q due to the risk of liquid spreading up the side of the well under centrifugal force.

Manual reaction setup using Vapor-Lock

We recommend adding Vapor-Lock to reaction tubes prior to any aqueous reaction components.

Recommended volume of Vapor-Lock:

- 10 µl Vapor-Lock is sufficient for a 25 µl reaction in a 0.1 ml Strip Tube
- 40 µl Vapor-Lock is sufficient for a 25 µl reaction in a 0.2 ml PCR Tube

Gentle centrifugation during a normal Rotor-Gene Q run ensures full partitioning of the Vapor-Lock and aqueous reaction components into two layers (i.e., Vapor-Lock on top and reaction mix underneath). If not using a Rotor-Gene Q cycler, we recommend brief centrifugation of samples prior to cycling.

Automated reaction setup on the QIAgility using Vapor-Lock

We recommend adding Vapor-Lock to reaction tubes prior to any aqueous reaction components.

We recommend the following parameters when using Vapor-Lock on the QIAgility:

- Liquid-level detection should be set to "Estimate" mode in the software for dispensing. This is due to the nonconductive property of Vapor-Lock, which means that the liquid-level detection system will not detect it.
- For optimal Vapor-Lock dispensing, increase air intake from the default 7 µl to 10 µl. The extra 3 µl air blow-out effectively fully ejects Vapor-Lock from the tip.
- For optimal Vapor-Lock dispensing, reduce pipetting speed from 150 µl/sec to 30 µl/sec. This minimizes retention of Vapor-Lock on the inside of the tip.
- Use normal liquid-level sensing to dispense aqueous samples as this allows samples to be dispensed underneath the Vapor-Lock overlay. The liquid-level sensing tip passes through the Vapor-Lock before dispensing, ensuring no evaporation or contamination of reagents or samples.
- Dispense Vapor-Lock in a separate pre-run. This is because liquid-level software estimation and real-time liquid-level sensing methods cannot both be used in the same run. The recommended volumes are the same as the volumes recommended above for manual reaction setup.
- Gentle centrifugation during a normal Rotor-Gene Q run ensures full partitioning of the Vapor-Lock and aqueous reaction components into two layers (i.e., Vapor-Lock on top and reaction mix underneath). If not using a Rotor-Gene Q cycler, we recommend brief centrifugation of samples prior to cycling.

Specifications

Physical properties	PCR-safe; no known contaminants, including DNA, RNA, enzymes, metals, salts or other trace elements
Purity	Synthetic, high-molecular–weight polymer; hydrophobic, colorless, odorless, nonhazardous
Autofluorescence	None detected spanning ultraviolet to infra red (excitation 36–680 nm; emission 460–>712 nm)
Viscosity	≥5 centistoke
Vapor pressure	<1 mm Hg
Boiling point	>120°C
Flash point	<125°C
Solubility	<100 ppb

Ordering Information

Product	Contents	Cat. no.
Vapor-Lock (50 ml)	50 ml Vapor-Lock (10–40 µl/reaction)	981611
Related products		
Rotor-Gene Q 2plex	Real-time PCR cycler with 2 channels (green, yellow), laptop computer, software, accessories, 1-year warranty on parts and labor	Inquire
Rotor-Gene Q 2plex HRM	Real-time PCR cycler and HRM instrument with 2 channels (green, yellow) plus HRM channel, laptop computer, software, accessories, 1-year warranty on parts and labor	Inquire
Rotor-Gene Q 5plex	Real-time PCR cycler with 5 channels (green, yellow, orange, red, crimson), laptop computer, software, accessories, 1-year warranty on parts and labor	Inquire
Rotor-Gene Q 5plex HRM	Real-time PCR cycler and HRM instrument with 5 channels (green, yellow, orange, red, crimson) plus HRM channel, laptop computer, software, accessories, 1-year warranty on parts and labor	Inquire
Rotor-Gene Q 6plex	Real-time PCR cycler with six channels (blue, green, yellow, orange, red, crimson), laptop computer, software, accessories, 1-year warranty on parts and labor	Inquire
QIAgility System (incl. PC)	Robotic workstation for automated PCR setup	9001531
QIAgility System HEPA/UV (incl. PC)	Robotic workstation for automated PCR setup with UV light and HEPA filter	9001532
PCR Tubes, 0.2 ml (1000)	1000 thin-walled tubes for 1000 reactions	981005
PCR Tubes, 0.2 ml (10000)	10 x 1000 thin-walled tubes for 10,000 reactions	981008
Strip Tubes and Caps, 0.1 ml (250)	250 strips of 4 tubes and caps for 1000 reactions	981103
Strip Tubes and Caps, 0.1 ml (2500)	10 x 250 strips of 4 tubes and caps for 10,000 reactions	981106

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